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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/541,740	06/02/2006	David Marks	084706-000000US	3889
20350 7590 09/02/2009 TOWNSEND AND TOWNSEND AND CREW, LLP TWO EMBARCADERO CENTER EIGHTH FLOOR SAN FRANCISCO, CA 94111-3834			EXAMINER BROWN, COURTNEY A	
			ART UNIT 1616	PAPER NUMBER
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/541,740	<b>Applicant(s)</b> MARKS, DAVID	
	<b>Examiner</b> COURTNEY BROWN	<b>Art Unit</b> 1616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 May 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 9-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 9-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Acknowledgement of Receipt/Status of Claims***

This Office Action is in response to the amendment filed May 21, 2009. Claims 1-6 and 9-26 are pending in the application. Claims 7 and 8 have been cancelled. Claims 1,3-6,11 and 23-25 have been amended.. Claims 1-6 and 9-26 are being examined for patentability.

Applicant's arguments, see pages 5 and 6, filed May 21, 2009, with respect to the rejection(s) of claim(s) 1-26 under 35 USC 103 (a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection has been made below.

Rejections not reiterated from the previous Office Action are hereby withdrawn. The following rejections and/or objections are either reiterated or newly applied. They constitute the complete set of rejections and/or objections presently being applied to the instant application.

### **New Rejection(s)/Objection(s)**

#### ***Claim Objections***

Claim 9 is objected to because of the following informalities: claim 9 has a parenthetical expression (i.e., OSR). Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 12 recites the limitation "composition according to claim 1 which contains a compound which remediates symptoms of viral infection" in line 1. There is insufficient antecedent basis for this limitation in the claim because instant claim 1 pertains to a pesticidal composition comprising a mixture of tagetes and thyme oil, agriculturally acceptable carrier oil and an emulsifier.

Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 12 recites the limitation "wherein component (ii) is selected from canola oil (OSR)". It is unclear to the Examiner what OSR is.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention

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was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

**Claims 1-6 and 9-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bessette et al. (US Patent Application 2003/0194454 A1 cited in the previous office action) in view of Tumbers (US 20030203056 A1).**

***Applicant's Invention***

Applicant claims a pesticidal composition comprising (i) a mixture of tagetes oil and thyme oil (a.k.a. thymol) in a ration of from 3:1 to 1:3, wherein the total amount of such oils does not exceed 5%w/w in the composition; (ii) an agriculturally acceptable carrier oil and (iii) an emulsifier.

***Determination of the scope and the content of the prior art  
(MPEP 2141.01)***

Bessette et al. teach novel pesticidal compositions containing rosemary oil and/or **wintergreen oil** that can be used with conventional pesticides, including conventional plant essential oils such as **thyme oil** ([0013]). Bessette et al. teach that the term "wintergreen oil" (Oil of *Gaultheria procumbens*) denotes both extracted (by distillation of the leaves of ***Gaultheria fragrantissima***) and derivatives thereof including synthetic versions comprising **methyl salicylate** (compound which remediate symptoms of viral infection and reduces ethylene production of instant application, ([0029])). The Examiner notes that it is known in the art that the production of ethylene is differentially affected by methyl salicylate, depending on the concentration used (see Ding et al. abstract). Bessette et al. teach that the aforementioned composition may also comprise rosemary oil and/or wintergreen oil in combination with diluents or carriers such as **mineral oil** or other essential oils ([0039])(e.g., **safflower oil, benzyl alcohol, citronellal, d-**

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**limonene, soybean oil, sesame oil, etc.), and water** ([0068-0069]). Bessete et al. teach the use various optimum ratios between and among the constituents of each proprietary blend of essential oils such as, the mixing ratio of rosemary oil to wintergreen oil is the ratio wherein rosemary oil and wintergreen oil shows a **synergistic effect, and usually is from 100:1 to 1:100 parts by weight, preferably within the range from 13:1 to 1:13** ([0040]). Bessette et al. teach that the aforementioned compositions can be **used with conventional pesticides** ([0041]). In Example 2, paragraph 0085, Bessette et al. teach a formulation wherein 0.5% w/w **lecithin** (emulsifier) is used. In Table 1-9, Bessette et al. teach the application of said pesticidal composition at **2 quarts/acre** (which equals about 2 liters per hectare). Bessette et al. additionally teach a method of treating a **locus** where invertebrate pest control is desired using said pesticidal composition ([0014]).

***Ascertainment of the difference between the prior art and the claims  
(MPEP 2141.02)***

The difference between the invention of the instant application and that of Bessette et al. is that Bessette et al. do not expressly teach the use of a pesticidal composition that comprises a mixture of tagetes oil and thyme oil in an amount no more than 5% w/w of the essential oil component. This deficiency in Bessette et al. is cured by the teaching of Tumbers. Tumbers teaches a nematocidal composition comprising a nematocidal agent obtained from the stalk of a plant comprising essential oils that can be obtained from plant species such as ***Tagetes patula Tagetes*** (i.e., tagetes oil) and

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***Thymus vulgaris Thyme*** (i.e., thyme oil,[0009]) wherein typical compositions may include a mixture of two or more said nematicidal agents ([0020]) in an amount between about 5 and 30%, preferably about 15 to about 25% plant extract and between about 0.45 vol. % to about 2.5 vol. %, preferably about **1.5 vol. %** of a mixture of plant essential oils ([0021]).

***Finding of prima facie obviousness***

***Rationale and Motivation (MPEP 2142-2143)***

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of the two cited references to arrive at a pesticidal composition comprising a pesticidal composition that comprises no more than 5% of a mixture of tagetes oil and thyme oil. In addition to the tagetes/thyme oil mixture, the instant invention further claims the use of a methyl salicylate compound contained in winter green oil. Bessette et al. teach pesticidal compositions comprising a mixture of essential oils comprising rosemary oil, wintergreen oil, and thyme oil and defines "wintergreen oil" to be inclusive of a synthetic version which comprises a methyl salicylate compound. Methyl salicylate is known in the art to remediate symptoms of viral infection. In addition, Tumbers teaches that an essential oil composition comprising a mixture of tagetes and thyme oils kill nematode pests. Thus, one of ordinary skill in art would have been motivated to combine the cited teachings using the



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composition taught by Bessette et al. and substituting the rosemary oil component with tagetes oil as taught by Tumbers with a reasonable expectation of success of formulating an essential oil composition that is nematocidal and remediates symptoms of viral infection.

Regarding the claimed amounts of emulsifier, Bessette et al teaches the use of 0.5% emulsifier as opposed to 1-20% as instantly claimed. It would have been obvious to one of ordinary skill in the art at the time of the invention to engage in routine experimentation to determine optimal or workable ranges for the emulsifier component that produce expected results. Where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. **In re Aller, 220 F. 2d 454, 105 USPQ 233 (CCPA 1955).**

All the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

Accordingly, in view of the cited references and that knowledge generally available to the ordinarily skilled artisan, it is apparent that such individual would have been motivated to combine the teachings of the respective references in the manner of Applicant to arrive at the claimed invention.

**Claims 1-6 and 9-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bessette et al. (US Patent Application 2003/0194454 A1, cited**

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**in the previous office action) in view of Linsig (CH 688787 A5, machine translation attached).**

***Applicant's Invention***

Applicant claims a pesticidal composition comprising (i) a mixture of tagetes oil and thyme oil (a.k.a. thymol) in a ration of from 3:1 to 1:3, wherein the total amount of such oils does not exceed 10%w/w in the composition; (ii) an agriculturally acceptable carrier oil and (iii) an emulsifier.

***Determination of the scope and the content of the prior art  
(MPEP 2141.01)***

The teaching of Bessette et al. is incorporated herein by reference and are therefore applied in the instant rejection as discussed above.

***Ascertainment of the difference between the prior art and the claims  
(MPEP 2141.02)***

The difference between the invention of the instant application and that of Bessette et al. is that Bessette et al. do not expressly teach the use of a pesticidal composition that comprises a mixture of tagetes oil and thyme oil in an amount no more

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than 5 w/w% of the essential oil component. This deficiency in Besette et al. is cured by the teaching of Linsig. Linsig teaches a composition comprising **3-8 natural essential oils** such as **tagetes and thyme** in an amount of 0.5-99 (**preferably 1-10 wt.%**) with a **synergistic** action in the biological, physiological and/or psychic areas of a living organism such as humans, animals and plants (see abstract and page 2, paragraph 3 of attached machine translation). Linsig also teaches the use of a carrier and/or solvent selected from natural vegetable oils; balsams; fats, resins or waxes; and alcohols and one or more auxiliaries selected from binders, emulsifiers and carriers, surfactants, antioxidants and additional care components (see abstract). Linsig teaches that the aforementioned composition can be used for plant protection and enlarging plant resistance against pests (see page 5, paragraph 4 of machine translation).

***Finding of prima facie obviousness***

***Rationale and Motivation (MPEP 2142-2143)***

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of the cited references to arrive at a pesticidal composition a mixture of tagetes oil and thyme oil in an amount no more than 1.5%-10% w/w of the essential oil component. Linsig teaches the use of a mixture of three or more essential oils such as tagetes oil and thyme oil in a synergistic composition in a preferred amount of about 1.5 vol. % ([0021]) in a composition used for plant protection.

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Bessette et al. teach pesticidal compositions comprising a mixture of essential oils comprising rosemary oil, wintergreen oil, and thyme oil and defines "wintergreen oil" to be inclusive of a synthetic version which comprises a methyl salicylate compound. Methyl salicylate is known in the art to remediate symptoms of viral infection. In addition, Linsig teaches the use of a mixture of three or more essential oils such as tagetes oil and thyme oil in a synergistic composition in a preferred amount of about 1.5 vol. % ([0021]) in a composition used for plant protection. Thus, one of ordinary skill in art would have been motivated to combine the cited teachings using the composition taught by Bessette et al. and substituting the rosemary oil component with tagetes oil as taught by Linsig with a reasonable expectation of success of formulating an essential oil composition that is synergistic and remediates symptoms of viral infection.

Regarding the claimed amounts of emulsifier, Bessette et al. teaches the use of 0.5% emulsifier as opposed to 1-20% as instantly claimed. It would have been obvious to one of ordinary skill in the art at the time of the invention to engage in routine experimentation to determine optimal or workable ranges for the emulsifier component that produce expected results. Where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. ***In re Aller*, 220 F. 2d 454, 105 USPQ 233 (CCPA 1955).**

All the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

Accordingly, in view of the cited references and that knowledge generally available to the ordinarily skilled artisan, it is apparent that such individual would have been motivated to combine the teachings of the respective references in the manner of Applicant to arrive at the claimed invention.

### ***Response to Arguments***

Applicant's arguments, filed May 21, 2009, with respect to the 112 second paragraph rejection of claims 1, 4-6, and 11 have been considered but are moot in view of Applicant's amendment.

Applicant's arguments, filed May 21, 2009, with respect to the 103 rejection of claims 1-26 over Bessette et al. (US Patent Application 2003/0194454 A1) in view of Zocchi et al. (US Patent No. 5,985,814) have been considered but are moot in view of the new ground(s) of rejection. However, the Examiner did consider Applicant's arguments pertaining to synergistic insecticidal activity within the claimed range that is illustrated in Examples 4 and 5 of the instant specification. The Examiner notes that Applicant has not provided enough explanation to read and understand the data presented on page 24, Table 12 of Example 4 and pages 25 and 26, Table 13 of Example 5 of the instant specification.

### ***Conclusion***

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The claims remain rejected.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR Only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electron Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Courtney Brown, whose telephone number is 571-270-3284. The examiner can normally be reached on Monday-Friday from 8 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's Supervisor, Johann Richter can be reached on 571-272-0646. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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